

**Compositions for Chemical Mechanical Planarization  
of Tantalum and Tantalum Nitride**

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**ABSTRACT**

The present invention relates to compositions for the chemical mechanical planarization (“CMP”) of barrier/adhesion layers, particularly Ta/TaN barrier/adhesion layers as occur in the manufacture of integrated circuits. CMP compositions comprise an aqueous solution of oxidizer and colloidal silica abrasive. Oxidizers include hydroxylamine nitrate, nitric acid, benzotriazole, ammonium nitrate, aluminum nitrate, hydrazine and mixtures thereof in aqueous solution.